CLAIMS:

1. A capillary electrochromatography (CEC) device comprising:

- a support material receiving unit (30) with at least one inlet and at least one outlet, packed with support material (60) which has a porous design and whose surface consists of an outer surface (510) and a pore surface (540), wherein the outer surface has regions of different derivatization and/or functionality from that of the pore surface.

2. The device according to claim 1, characterized in that said support material receiving unit is a capillary column.

3. The device according to claim 1, characterized in that said support material receiving unit is designed as a part of a channel system on a chip.

4. The device according to claim 1, characterized in that at least two vessels (90) for receiving the mobile phase (120) and at least one voltage source (10) are provided.

5. The device according to claim 1, characterized in that a pressure generating means is provided for applying pressure to the support material receiving unit.

6. The device according to claim 1, characterized in that a system is provided for the automatic changing of the vessels for receiving the mobile phase.

7. The device according to claim 1, characterized in that said support material receiving unit is coupled to at least one detector (150).

8. The device according to claim 7, characterized in that said detector is designed as a mass spectrometer and/or optical detector, especially light-

scattering detector, UV detector, and/or electrochemical detector, and/or fluorescence detector, and/or conductivity detector, and/or refractive index detector, especially laser-based refractive index detector coupled with absorption detection, and/or laser-based refractive index detector using backscatter, and/or chemiluminescence nitrogen-specific detector, and/or thermo-optical detector, especially thermo-optical absorption detector, and/or laser-induced capillary vibration detector.

9. The device according to claim 7, characterized in that said detector is a condensation nucleation light scattering detector.

10. The device according to claim 1, characterized in that said capillary column and chip consist of plastics and/or glass and/or fused silica and/or ceramics and/or elastomer and/or polymers.

11. The device according to claim 1, characterized in that at least two support material receiving units are provided which are interconnected through a capillary system and/or a channel system.

12. The device according to claim 11, characterized in that said channel system and/or capillary system has at least one outlet.

13. The device according to claim 1, characterized in that the outlet of the support material receiving unit has an inner and/or outer diameter which is different from that of the inlet.

14. The device according to claim 7, characterized in that said outlet is designed as an electrospray device.

15. The device according to claim 7, characterized in that a multitude, especially from 2 to 50, more preferably from 2 to 16, support material

receiving units are provided in a parallel and/or two-dimensional arrangement.

16. The device according to claim 7, characterized in that said at least one support material receiving unit contains a mixture of different kinds of support materials, each kind of support material having a porous design and a surface which consists of an outer and a pore surface, wherein the outer surface has regions of different derivatization and/or functionality from that of the pore surface.

17. A method for the capillary-electrochromatographic processing of samples using a support material which has a porous design and whose surface consists of an outer surface (510) and a pore surface (540), characterized in that the outer surface has regions of different derivatization and/or functionality from that of the pore surface.

18. The method according to claim 17, characterized in that said regions of different derivatization and/or functionality are distributed on said outer and/or pore surfaces homogeneously and/or heterogeneously.

19. The method according to claim 17, characterized in that said pore and/or outer surface is derivatized and/or functionalized with hydrophobic and/or hydrophilic groups and/or ion-exchange groups and/or affinity ligands and/or chiral groups.

20. The method according to claim 17, characterized in that said pore and/or outer surface comprises regions derivatized and/or functionalized with alkyl residues having a length of C_1 to C_{50}, preferably C_4 to C_{22}, more preferably C_4, C_8 and C_{18}.

21. The method according to claim 17, characterized in that said pore and/or outer surface comprises regions derivatized and/or functionalized with diols.

22. The method according to claim 17, characterized in that said support material has a substantially spherical design having an outer diameter, D, of 0.05 D 20 m, preferably 0.1 D 5 m, more preferably 0.5 D 3 m.

23. The method according to claim 17, characterized by having a pore diameter, d, of 0.5 d 100 nm, preferably 1 d 50 nm, more preferably 2 d 6 nm.

24. The method according to claim 17, characterized by consisting of an organic polymer or copolymer containing hydroxy groups.

25. The method according to claim 17, characterized by consisting of a silicate-containing material modified with polyethylene glycol or polyoxyethylene on its outer surface, and in that the pore surface is modified with hydrophobic groups, especially phenyl groups, C_{18}, C_8 and/or nitrile.

26. The method according to claim 17, characterized by consisting of a hydroxy-containing material modified with glycine on its outer surface and modified with polypeptides, especially tripeptides, on the pore surface.

27. The method according to claim 17, characterized by consisting of silica gel modified with glycerolpropyl.

28. The method according to claim 17, characterized by consisting of glass modified with glycerolpropyl.

29. The method according to claim 17, characterized by comprising the following steps:

- applying a sample consisting of an analyte and sample matrix to a capillary electrochromatography (CEC) device comprising:
    - a support material receiving unit (30) with at least one inlet and at least one outlet, packed with support material (60) which has a porous design and whose surface consists of an outer surface (510) and a pore surface (540), wherein the outer surface has regions of different derivatization and/or functionality from that of the pore surface;
- applying a voltage to produce an electro-osmotic flow;
- applying a wash buffer;
- eluting the sample matrix;
- applying a transfer buffer;
- eluting the analyte.

30. The method according to claim 29 for the combined sample processing and separation, characterized in that the following steps are performed after the elution of the sample matrix:

- applying an elution buffer;
- separating and eluting the analyte.

31. The method according to claim 29, characterized in that, after the analyte has been separated, its components and/or the concentration of its components are determined by a detector.

32. The method according to claim 31, characterized in that said detector is a mass spectrometer and/or optical detector, especially light-scattering detector, condensation nucleation light scattering detector, and/or electrochemical detector, and/or conductivity detector, and/or refractive index detector, especially laser-based refractive index detector coupled with absorption detection, and/or laser-based refractive index detector using backscatter, and/or chemiluminescence nitrogen-specific detector, and/or thermo-optical detector, especially thermo-optical absorption detector, and/or laser-induced capillary vibration detector.

33. The method according to claim 29, characterized in that the application of the sample to the CEC device is performed hydrodynamically and/or electro-osmotically and/or electrophoretically.

34. The method according to claim 29, characterized in that the components of the analyte are collected in a fractionated manner after the separation.

35. The method according to claim 29, characterized in that the analyte, after elution, is transferred to a separating device, especially high pressure liquid chromatography device, capillary electrophoresis device or liquid chromatography device.

36. The method according to claim 29, characterized in that the analyte is atomized by an electrospray device when exiting the support materials receiving unit after the separation into its components.